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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TRUONG, LECHI

ART UNIT	PAPER NUMBER
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2126

121

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/513,706

Applicant(s)

LODRIGE ET AL.

Examiner

LeChi Truong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,4-6,10-17,19-22 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,4,10-17,19-22 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. Claims 2, 4-6, 10-17, 19-22, and 24 are presented for the examination.

Claim Objections

Claims 21, 22 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

As to claims 21 and 22, they are methods as recited in claim 1 but claim 1 had been canceled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 4, 10, 11, 16, 17, 21, 22, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admit prior Art (APA) (page 1-3) in view of AIX Version 4.3 Communications Programming Concepts.

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5. As to claim 2, APA teaches the invention substantially as claimed including: a first message, second message (instances messages, page 3, ln 9-10), a first thread, a second thread (two or more threads, page 3, ln 9-11), the two software modules (a stream module, page 3, ln 9-13), a first processor, a second processor (different processors, page 3, ln 9-11), the synchronization queue (synchronization queue, page 2, ln 25-30 to page 4, ln 1-5).

6. APA does not teach propagating a first message to or from a synchronization queue while allowing a second thread to propagate a second message between the software modules, concurrently propagate a first and second messages to or from a synchronization queue. However, AIX teaches propagating a first message to or from a synchronization queue while allowing a second thread to propagate a second message between the software modules, concurrently propagate a first and second messages to or from a synchronization queue (in stream synchronization, a multi-thread environment, several threads may access the same stream, the same module, or the same queue at the same time. Stream use a synchoronization-queueing (stream synchronization, page 1-4)

7. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of APA and AIX because AIX's in stream synchronization, a multi-thread environment, several threads may access the same stream, the same module, or the same queue at the same time. Stream use a synchoronization-queueing would ensure that no data inconsistency may occur when two different threads from multi- thread environment can access the upstream and down stream at the same time.

8. As to claim 4, APA teaches a lock (queue lock, page 3, ln 15-23).

9. **As to claim 10**, APA teaches the two software modules (stream modules 104 and 106, page 2, ln 1-4), a stack as STREAM modelers (a STREAMS, page 2, ln 1-16).
10. **As to claim 11**, it is an apparatus claim of claim 2; therefore, it is rejected for the same reason as claim 2 above. In additional, AXI teaches a propagation controller operating to enable at least two processors... to concurrently propagate message to or form the auxiliary queue of the second software module(in stream synchronization, a multi-thread environment, several threads may access the same stream, the same module, or the same queue at the same time. Stream use a synchoronization-queueing (stream synchronization, page 1-4).
12. **As to claim 16**, it is an apparatus claim of claims 10; therefore, it is rejected for the same reason as claim 10 above.
13. **As to claim 17**, it is an apparatus claim of claim 1; therefore, it is rejected for the same reason as claim 1 above. In additional, APA teaches computer program code (an application, page 2, ln 11-12).
14. **As to claim 21**, APA teaches a second thread (two or more threads, page 3, ln 9-11), second message (instances messages, page 3, ln 9-10), the first synchronization queue (synchronization queue, page 2, ln 25-30 to page 4, ln 1-5).
15. **As to claim 22**, APA teaches a second thread (two or more threads, page 3, ln 9-11), second message (instances messages, page 3, ln 9-10), the first synchronization queue (synchronization queue, page 2, ln 25-30 to page 4, ln 1-5), the second synchronization (queue 120, Fig.1).
16. **As to claim 24**, AIX teaches additional threads concurrently propagate message to or from the first synchronization queue(in stream synchronization, a multi-thread environment,

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several threads may access the same stream, the same module, or the same queue at the same time. Stream use a synchorization-queueing (stream synchronization, page 1-4).

17. Claims **5,6, 14, 15, 19, 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Admit prior Art (APA) (page 1-3) in view of AIX Version 4.3 Communications Programming Concepts and further in view of Obermarck et al (US Patent: 4,847,754).

18. **As to claim 5**, APA and AIX does not teach first indicator for the first processor, indicate ...first processor, the first processor is not propagating. However, Obermarck teaches first indicator for the first processor, indicate ...first processor, the first processor is not propagating (excess, message buffer capacity /credit / the consumer logic 30, col 5, ln 23-56) for concurrent propagation of data between software modules/RSV (col 4, ln 26-50).

19. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of APA, AIX and Obermarck because Obermarck's excess, message buffer capacity /credit / the consumer logic 30 would provide simultaneous access to shared resources among concurrently executing processes.

20. **As to claim 6**, Obermarck teaches determining an event, being processed, pending to be processed, determining a thread-count(the condition (col 1, ln 38-46), test RSV to determine whether another process has gained concurrently use of the resource, col 3, ln 15-23), locks, unlocks (col1, ln 40-61), an indication of credit (col 5, ln 23-68), the apply counter (APPCNTR) (col 6, ln 19-20, ln 41-44) for concurrent propagation of data between software modules.

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21. As to claim 14, Obermarck teaches processors concurrently propagate a message (another process has gained concurrent use of the resource (col 4, ln 27-50) for concurrent propagation of data between software modules.

22. As to claim 15, Obermarck teaches concurrently propagate a message (teaches another process has gained concurrent use of the resource (col 4, ln 27-50) for concurrent propagation of data between software modules.

23. As to claims 19, 20, they are apparatus claims of claims 5, 10; therefore, they are rejected for the same reason as claims 5, 10 above.

24. Claims 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admit prior Art (APA) in view of AIXVersion 4.3 Communications Programming Concepts and in view of Obermarch et al (US Patent: 4,847,754) and further in view of Heller et al (US. patent 5,404,562).

25. As to claim 12, APA and AIX do not teach a thread-count. However, Obermarck teaches a thread-count (the apply counter (APPCNTR), col 6, ln 19-20, ln 41-44) for concurrent propagation of data between software modules.

26. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of APA, AXI and Obermarck because Obermarck's the apply counter (APPCNTR) would provides simultaneous access to shared resources among concurrently executing processes.

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27. APA, AIX and Obermarck do not teach a queue count. However, Heller teaches a queue count (a counter 1907, col 18, ln 48-49) for concurrent propagation of data between software modules.

28. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of APA, AXI, Obermarch and Heller because Heller's a queue count apply the teaching of Obermarck to APA in order to count the number of coherence control requests and to store a value which the control requests to the shared data.

29. **As to claim 13**, APA teaches the synchronization queue ("synchronization queue", page 2, ln1/ 116, Fig 1).

30. APA, AIX and Obermarch do not teach a queue count. However, Heller teaches a queue count (a counter 1907, col 18, ln 48-49) for concurrent propagation of data between software modules.

31. It would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of APA, AIX, Obermarch and Heller because Heller's a counter 1907 would count the number of coherence control requests and to store a value which control request to shared data.

Response to the argument

32. Applicant amendment filed on 2/17/24 has been considered but they are not persuasive.

33. In the remarks, applicant argue in substance that (1) AIX does not teach " first and second threads concurrently propagate respective portions of the first and second messages to or

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from the first synchronization queue” (2) APA and AIX and Obermarch does not teach” plurality of processors to concurrently propagate messages to or from auxiliary queue”.

34. Examiner respectfully traversed applicant’s remarks:

As to the point (1), AIX teaches stream synchronization, a multi-thread environment, several threads may access the same stream, the same module, or the same queue at the same time (stream synchronization, page 1-4). In additional, the cited reference also teaches these limitations (US, 6,360,220 B1).

As to point (2), Obermarch teaches another process has gained concurrent use of the resource (col 4, ln 27-50).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LeChi Truong whose telephone number is (703) 305 5312. The examiner can normally be reached on 8 - 5.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 703-305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIP. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIP system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

LeChi Truong

May 17, 2004


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